## My watershed has "holes" (or missing plane elements) in it. Can I still use it?

Posted by isburns - 2007/11/03 23:03

---

A watershed with missing elements should not be used for parameterizing or simulation. (The error does not refer to watersheds created with non-releasing ponds.) This error is most likely due to a projection conflict that ArcView is unable to resolve or due to the use of input rasters that use a geographic projection. A clear indication of this is if the outlet used to delineate the suspect watershed falls well within the watershed outline instead of at the most downstream point.

To correct the problem, reproject the DEM to an appropriate projection. Then, recreate the filled DEM, flow direction grid and flow accumulation grids based on the projected DEM in AGWA. If the flow direction grid or flow accumulation grid is not recognized by AGWA (it is not found in the appropriate combobox), the selected projection is still in error. Reproject all other inputs to the new projection before using them in AGWA.

==========

## Re:My watershed has "holes" (or missing plane elements) in it. Can I still use it?

Posted by adehoces - 2008/10/22 12:44

---

Hello! I've been working with KINEROS on an 8 ha watershed, located in the South of Spain, for several months and my planes.shp has a small hole of 2.4 sq m. My outlet is also 20 meters far from the outline of the watershed. I have been given a text file with x,y,z coordinates and I have transformed it into a DEM, and I was also given an orthophotograph with its .w file. How can I know which projection does my DEM have? Which one would be appropriate? I enclose everything but the photograph, which is too heavy.
Thanks a lot in advance,
Ana http://www.tucson.ars.ag.gov/agwa/images/fbfiles/files/watershed.zip

==========

## Re:My watershed has "holes" (or missing plane elements) in it. Can I still use it?

Posted by lainie - 2008/10/22 22:21

---

There really is no way to determine the projection of the raw x,y,z data you sent me.  I suggest you ask whomever gave you the text file with the coordinates.

If you have the .tif.xml file for the orthophoto you may be able to determine that projection. Is it the same projection as the x,y,z data?

Lainie

==========

## Re:My watershed has "holes" (or missing plane elements) in it. Can I still use it?

Posted by adehoces - 2008/10/27 11:41

---

Hi! I asked to the person who gave me the data and I have found out that my data projection is ED50 (UTM). I have set that projection to all my data, and I have also recreated the filled DEM, fdgr an fagr as you suggested, but I still get the same hole. However, AGWA seems to work well, I have run plenty of simulations and I got the results I expected. My question is the following: what are the consequences of working with a holed watershed? Do I get an error which is proportional to the area relation hole-watershed? (for instance, in my case, am I going to get a 2.4 sq m/8 ha== 0.00003 error?). Furthermore, the outlet is only 4 m far from the outline, and the outline itself has the same boundaries that we expected from fieldwork.
Thanks,
Ana

==========

## Re:My watershed has "holes" (or missing plane elements) in it. Can I still use it?

Posted by lainie - 2008/10/27 22:38

---

I'm glad AGWA is working well even with the hole in your watershed. You most likely won't get a proportional error, but be aware that your results for the plane elements at the hole may not be correct.

The location of the outlet is determined by the DEM, which due to its resolution may not place it at the exact location you expect from your fieldwork. The DEM may also be responsible for the hole – if there is missing data at that location, the watershed will delineate around that location. Did you notice if the watershed delineation or the DEM has a hole in that spot?

==========

## Re:My watershed has "holes" (or missing plane elements) in it. Can I still use it?

Posted by adehoces - 2008/10/28 09:19

---

There is a hole neither in the DEM, nor in the watershed delineation grid. The only hole of my project is in planes.shp. I also thought it could be a matter of slope, a depression or something like that, but the missing plane is not flat and flow direction and accumulation have been calculated in the seven cells it includes.

==========